

What Is Claimed Is

1. A method for securely communicating between a private computer satellite network and a public network, the method comprising the steps of:

- providing a network firewall in the satellite network between the satellite network
5 and the public network;
providing a secure access appliance in said satellite network;
sending an outgoing message from the secure access appliance through said
firewall to the public network;
creating an answer message to said outgoing message outside of said satellite
10 network, said answer message asking the secure access appliance to open a tunnel
through said firewall;
sending said answer message from the public network through said firewall into
the satellite network in answer to the outgoing message;
receiving said answer message at the secure access appliance;
15 the secure access appliance opening a tunnel in said firewall after receiving said
answer message.

2. A method in accordance with claim 1, further comprising:

- providing a permitted and a forbidden network entity in the satellite network;
20 blocking the secure access appliance from communicating with the forbidden
entity;
passing communications between the secure access appliance and the permitted
network entity.

3. A method in accordance with claim 2, wherein:

said blocking is performed inside the secure access appliance.

5 4. A method in accordance with claim 2, wherein:

said blocking is performed inside the secure access appliance by one of an
internal network switch and a network filter.

5. A method in accordance with claim 1, wherein:

10 the firewall is configured to allow outgoing type messages to pass through the
firewall to the public network;

the firewall is configured to allow answer type messages to the outgoing type
messages to pass through the firewall into the satellite network.

15 6. A method in accordance with claim 1, wherein:

the firewall is configured to allow outgoing HTTP type messages to pass through
the firewall to the public network;

the firewall is configured to allow answering HTTP type messages to the outgoing
HTTP type messages to pass through the firewall into the satellite network.

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7. A method in accordance with claim 6, wherein:

said firewall passes HTTP protocol messages for World Wide Web access by
entities of the satellite network.

8. A method in accordance with claim 1, further comprising:
providing rules for operation of the tunnel in the secure access appliance;
operating the tunnel according to the rules during and after said opening of the
5 tunnel.

9. A method in accordance with claim 8, wherein:
the satellite network includes a plurality of network entities;
the rules limit which of the network entities the tunnel can access.
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10. A method in accordance with claim 9, wherein:
the rules include instructions for forming a virtual private network and a network
filter.

15 11. A method in accordance with claim 1, wherein:
the outgoing message is a status message and is sent periodically from the satellite
network through the firewall to the public network.

12. A method in accordance with claim 1, further comprising:
20 providing a private computer director network connected to the public network,
the director network including a controller and a server;
sending the outgoing message from the satellite network to the director network;

the controller sending the answer message to the satellite network asking to open a tunnel through the firewall;

the controller sending a tunnel request message to the server asking to open the tunnel with the satellite network;

5 the server and the secure access appliance cooperating to open and operate the tunnel;

providing server rules for operation of the tunnel in the server;

operating the tunnel at the server according to the server rules during and after the opening of the tunnel.

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13. A method in accordance with claim 1, further comprising:

monitoring a parameter within the satellite network;

operating said secure access appliance to open said tunnel when said parameter is in a predetermined state, said monitoring including monitoring a plurality of parameters of the satellite network, said operating of said secure access appliance includes providing a policy in the satellite network using said plurality of parameters to control when said secure access appliance establishes said tunnel, said policy including a state machine controlling said secure access appliance, said plurality of parameters operate said state machine;

20 providing a network filter between the satellite network and said public network;

providing network filter rules for configuring said network filter when said parameter is in said predetermined state;

configuring said network filter when said policy controls said secure access appliance to open said tunnel;

configuring said network filter according to said network filter rules when said parameter is in said predetermined state;

5 providing packet router rules for configuring a packet router when said policy controls said secure access appliance to open said tunnel;

configuring said packet router according to said packet router rules when said policy controls said secure access appliance to open said tunnel;

said parameter is a status of the satellite network, and said predetermined state is
10 said status being outside of predetermined acceptable limits;

said secure access appliance and a VPN server connect to form a virtual private network;

a distributed state machine is used to control a life cycle of said virtual private network, an expert system configures said distributed state machine according to said
15 policies, said polices are expressed as Extensible Markup Language (XML);

configuration of said distributed state machine is monitored for auditing purposes;
auditing information is expressed as XML;

probes are defined to measure a network state or statistic on the satellite network;

a plurality of probe data is aggregated and reported to a directed circuit policy
20 manager;

said aggregation of said probe data is expressed as XML.

14. A system for securely communicating between a private computer satellite network and a private computer director network through a public network, the satellite network including a firewall the satellite network and the public network, the system comprising:

5 a secure access appliance in the satellite network sending an outgoing message through the firewall and the public network to the director network, the firewall accepting answer messages from the public network answering said outgoing message, said secure access appliance including a tunnel client opening a tunnel in the firewall in response to an answer message asking said secure access appliance to open a tunnel through said
10 firewall.

15. A system in accordance with claim 14, wherein:

 said secure access appliance includes satellite rules for operation of said tunnel in the satellite network.
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16. A system in accordance with claim 14, further comprising

 a plurality of network entities in the satellite network, said secure access appliance includes satellite rules for limiting which of said network entities said secure access appliance can access.
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17. A system in accordance with claim 16, wherein:

 said secure access appliance includes a virtual private network device and a network filter configured according to said satellite rules.

18. A system in accordance with claim 14, wherein:

said outgoing message is a status message sent periodically from the satellite network through said firewall to the public network.

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19. A system in accordance with claim 15, wherein:

the director network includes a controller and a server, said controller sending said answer message to said secure access appliance in the satellite network asking to open a tunnel through the firewall, said controller sending a tunnel request message to

10 said server asking to open said tunnel with the satellite network, said server includes director rules for operation of said tunnel in said server, said server and said tunnel client cooperating to open and operate said tunnel according to said server and client rules.